What is claimed is:

1. A method of reducing the moisture content of a fibrous web, the method comprising the steps of:
a) supporting the fibrous web on a fluid permeable carrier;
b) providing at least one limiting orifice medium comprising a plurality of pores having a breakthrough pressure;
c) pressing the fibrous web between the fluid permeable carrier and the limiting orifice medium; and
d) applying a vacuum to the pores, wherein the vacuum is greater than the breakthrough pressure of the pores.

2. The method according to claim 1 wherein the step of providing a limiting orifice medium further comprises providing a limiting orifice medium that is substantially incompressible.

3. The method according to claim 1 wherein the step of providing a limiting orifice medium further comprises providing a limiting orifice medium wherein the capillary pores have an effective diameter in the range of 0.8 to 120 micro-meters.

4. The method according to claim 3 wherein the step of providing a limiting orifice medium further comprises providing a limiting orifice medium wherein the capillary pores have an effective diameter in the range of 2 to 40 micro-meters

5. The method according to claim 4 wherein the step of providing a limiting orifice medium further comprises providing a limiting orifice medium wherein the capillary pores have an effective diameter in the range of 5 to 20 micro-meters.

6. The method according to claim 1 wherein the step of pressing the fibrous web between the fluid permeable carrier and the limiting orifice medium comprises pressing the fibrous web between the fluid permeable carrier and the limiting orifice medium in at least two independent nips.

7. The method according to claim 1 wherein the step of pressing the fibrous web between the fluid permeable carrier and the limiting orifice medium comprises pressing with a pressing pressure in the range of about 1 to about 600 pli.

8. The method according to claim 7 wherein the step of pressing the fibrous web between the fluid permeable carrier and the limiting orifice medium comprises pressing with the pressing pressure in the range of about 50 to about 500 pli.

9. The method according to claim 8 wherein the step of pressing the fibrous web between the fluid permeable carrier and the limiting orifice medium comprises pressing with the pressing pressure in the range from about 250 to about 400 pli.

10. The method according to claim 1 wherein the step of pressing the fibrous web between the fluid permeable carrier and the limiting orifice medium comprises pressing with the pressing pressure in the range of about 1 to about 10,000 psi.

11. The method according to claim 10 wherein the step of pressing the fibrous web between the fluid permeable carrier and the limiting orifice medium comprises pressing with the pressing pressure in the range of about 10 to about 3500 psi.

12. The method according to claim 11 wherein the step of pressing the fibrous web between the fluid permeable carrier and the limiting orifice medium comprises pressing with the pressing pressure in the range of about 20 to about 2000 psi.

13. The method according to claim 1 wherein in the step of providing a fluid permeable carrier, the fluid-permeable carrier is patterned, and wherein in the step of pressing the fibrous web between the fluid permeable carrier and the limiting orifice medium, the patterned fluid permeable carrier primarily compacts the top-most plane of the web.

14. The method according to claim 1 wherein the step of pressing the fibrous web between the fluid permeable carrier and the limiting orifice medium comprises pressing the fibrous web and the fluid permeable carrier between a fluid-permeable pressing device and the limiting orifice medium.

15. The method according to claim 14 wherein the step of pressing the fibrous web and the fluid permeable carrier between a fluid-permeable pressing device and the limiting orifice medium further comprises applying a positive pressure through the fluid-permeable pressing device.

16. A method according to claim 14 wherein the step of pressing the fibrous web and the fluid permeable carrier between a fluid-permeable pressing device and the limiting orifice medium further comprises applying a negative pressure through the permeable pressing device.

17. The method according to claim 16 wherein the step of pressing the fibrous web and the fluid permeable carrier between a fluid-permeable pressing device and the limiting orifice medium further comprises pressing the fibrous web and fluid permeable carrier between two limiting orifice media.

18. The method according to claim 1 wherein the step of providing a limiting orifice medium comprises providing the limiting orifice medium with a surface temperature of between about 100 degrees F and about 500 degrees F.

19. A method of removing a portion of the liquid contained in a wet fibrous web, the method comprising the steps of:
a) supporting the web on a forming fabric;
b) dewatering the web to a consistency from about 6% to about 32%;
c) transferring the web from the forming fabric to a fluid-permeable patterned carrier;

d) providing a limiting orifice medium comprising a plurality of pores having a breakthrough pressure;
e) pressing the web between the fluid –permeable patterned carrier and the limiting orifice medium,
f) applying a vacuum to the pores, wherein the vacuum is greater than the breakthrough pressure of the pores.

20. The method according to claim 19 further comprising the step of maintaining the web in contact with the limiting orifice medium and under a pressure for a period of time in the range from about 0.0005 to about 0.3 sec.

21. The method according to claim 19 wherein the step of transferring the web from the forming fabric to a fluid-permeable patterned carrier comprises transferring the web to the fluid-permeable patterned carrier wherein the fluid-permeable patterned carrier has a top-most-surface plane area of between about 10% and about 75% of a total surface area of the carrier.

22. The method according to claim 21 wherein the step of transferring the web from the forming fabric to a fluid-permeable patterned carrier comprises transferring the web to the fluid-permeable patterned carrier wherein the fluid-permeable patterned carrier has a top-most-surface plane area of between about 20% and about 65% of the total surface area of the carrier.

23. The method according to claim 19 further comprising the step of foreshortening the web prior to the step of pressing the web between the fluid permeable patterned carrier and the limiting orifice medium.

24. The method according to claim 19 further comprising the step of through-air drying the web to a consistency of between about 50% and about 90%.

25. The method according to claim 24 further comprising the step of through-air drying the web to a consistency of about 94% on the fluid permeable patterned carrier.

26. The method according to claim 25 further comprising the step of removing the dry web from the patterned carrier without creping.

27. The method according to claim 24 further comprising the step of transferring the web to a conductive dryer.

28. A method of reducing the moisture content of a fibrous web in a web-making process, the method comprising the steps of:
a) supporting the web on a fluid permeable carrier;
b) providing a limiting orifice medium wherein the limiting orifice medium comprises a woven material further comprising a plurality of pores having a breakthrough pressure;
c) pressing the fibrous web between the fluid permeable carrier and the limiting orifice medium;

d) applying a vacuum to the pores, wherein the vacuum is greater than the breakthrough pressure of the pores.

29. A method of reducing the moisture content of a fibrous web in a web-making process, the method comprising the steps of:
a) supporting the web on a fluid permeable carrier;
b) providing a limiting orifice medium wherein the limiting orifice medium comprises an endless belt further comprising a plurality of pores having a breakthrough pressure;
c) pressing the web between the fluid permeable carrier and the limiting orifice medium,;
d) applying a vacuum to the pores, wherein the vacuum is greater than the breakthrough pressure of the pores.